

## IN THE CLAIMS

Please amend the claims to read as follows:

### Listing of Claims

1. (Original) A wireless LAN access authentication system in a network system comprising a plurality of wireless LAN network systems and a center station that controls said plurality of wireless LAN network systems in a centralized manner,

each of said plurality of wireless LAN network systems comprising at least two access point sections accessed by a radio terminal apparatus that transmits/receives a radio signal through a radio section and a gateway apparatus which relays transmission/reception of data signals and control signals between said access point sections,

said center station comprising a center station gateway apparatus that relays transmission/reception of data signals and control signals between the gateway apparatuses of said plurality of wireless LAN network systems and an authentication server that performs access authentication on said radio terminal apparatus which has accessed said access point sections and distributes cryptographic keys used for encryption of a radio section through which said access-authenticated radio terminal apparatus carries

out communication to said radio terminal apparatus and said access point section,

said wireless LAN access authentication system comprising:

an access control section provided for each of said plurality of wireless LAN network systems for controlling the situation of access of said radio terminal apparatus in the own communication area to said authentication server and checking the presence/absence of access of said radio terminal apparatus to said authentication server when said radio terminal apparatus moves to a communication area of a new access point section; and

a cryptographic key control section provided for each of said plurality of wireless LAN network systems for controlling cryptographic keys distributed from said authentication server and distributing, when said access control section confirms that said radio terminal apparatus which has moved to the communication area of the other access point section has already accessed said authentication server, the cryptographic key for said radio section through which said radio terminal apparatus carries out communication to said radio terminal apparatus and said new access point section in the area to which said radio terminal apparatus has moved.

2. (Original) The wireless LAN access authentication system according to claim 1, wherein said access control section and said cryptographic key control section are arranged in said gateway apparatus.

3. (Original) The wireless LAN access authentication system according to claim 2, wherein said access control section comprises a control section that controls at least one access amount of an access time of said radio terminal apparatus or communication packet amount and requests said radio terminal apparatus for reauthentication when said access amount reaches a predetermined amount.

4. (Original) The wireless LAN access authentication system according to claim 1, wherein said radio terminal apparatus comprises an information card which records ID information and uses the ID information recorded in said information card as an authentication ID at the time of access authentication of said radio terminal apparatus.

5. (Original) A wireless LAN access authentication method in a network system comprising a plurality of wireless LAN

network systems and a center station that controls said plurality of wireless LAN network systems in a centralized manner,

each of said plurality of wireless LAN network systems comprising at least two access point sections accessed by a radio terminal apparatus that transmits/receives a radio signal through a radio section and a gateway apparatus which relays transmission/reception of data signals and control signals between said access point sections, and

said center station comprising a center station gateway apparatus that relays transmission/reception of data signals and control signals between the gateway apparatuses of said plurality of wireless LAN network systems and an authentication server that performs access authentication on said radio terminal apparatus which has accessed said access point sections and distributes cryptographic keys used for encryption of a radio section through which said access-authenticated radio terminal apparatus carries out communication to said radio terminal apparatus and said access point section,

said wireless LAN access authentication method comprising:

an access control step of controlling the situation of access of said radio terminal apparatus in each of said wireless LAN network systems to said authentication server and checking the presence/absence of access of said radio terminal apparatus

to said authentication server when said radio terminal apparatus moves to a communication area of a new access point section; and

a cryptographic key control step of controlling cryptographic keys distributed from said authentication server and distributing, when it is confirmed in said access control step that the radio terminal apparatus which has moved to the communication area of the other access point section has already accessed said authentication server, the cryptographic key for the radio section through which said radio terminal apparatus carries out communication to said radio terminal apparatus and said new access point section in the area to which said radio terminal apparatus has moved.

6. (Canceled).

7. (Original) A gateway apparatus in each of wireless LAN networks in a wireless LAN access authentication system in a network system comprising a plurality of wireless LAN network systems and a center station that controls said plurality of wireless LAN network systems in a centralized manner,

each of said plurality of wireless LAN network systems comprising at least two access point sections accessed by a radio

terminal apparatus that transmits/receives a radio signal through a radio section,

said center station comprising a center station gateway apparatus that relays transmission/reception of data signals and control signals between the gateway apparatuses of said plurality of wireless LAN network systems and an authentication server that performs access authentication on said radio terminal apparatus which has accessed said access point section and distributes cryptographic keys used for encryption of a radio section through which said access-authenticated radio terminal apparatus carries out communication to said radio terminal apparatus and said access point section,

said gateway apparatus comprising:

a transmission/reception section that transmits/receives said data signals and said control signals to/from the center station gateway apparatus of said center station;

an access control section that controls the situation of access of said radio terminal apparatus to said authentication server within each of said wireless LAN networks and checks the presence/absence of access of said radio terminal apparatus to said authentication server when said radio terminal apparatus moves to a communication area of a new access point section; and

a cryptographic key control section that controls said cryptographic keys distributed from said authentication server through said access control section and distributes, when it is confirmed that said radio terminal apparatus which has moved to the communication area of the other access point section has already accessed said authentication server, said cryptographic key for the radio section through which said radio terminal apparatus carries out communication to said radio terminal apparatus and the new access point section in the area to which said radio terminal apparatus has moved.

8. (Original) The gateway apparatus according to claim 7, wherein said access control section comprises a control section that controls an access amount of at least one of an access time or communication packet amount of said radio terminal apparatus and requests said radio terminal apparatus for reauthentication at the time at which said access amount has reached a predetermined amount.

9. (Original) A radio terminal apparatus used in a wireless LAN access authentication system in a network system comprising a plurality of wireless LAN network systems and a

center station which controls said plurality of wireless LAN network systems in a centralized manner,

each of said plurality of wireless LAN network systems comprising at least two access point sections accessed by a radio terminal apparatus transmitting/receiving a radio signal through a radio section and a gateway apparatus that relays transmission/reception of data signals and control signals between said access point sections,

said center station comprising a center station gateway apparatus that relays transmission/reception of data signals and control signals between the gateway apparatuses of said plurality of wireless LAN network systems and an authentication server that performs access authentication on said radio terminal apparatus which has accessed said access point section and distributes the cryptographic key used for encryption of the radio section through which said access-authenticated radio terminal apparatus carries out communication to said radio terminal apparatus and said access point section,

said radio terminal apparatus comprising an information card in which ID information is recorded when access authentication is performed by said authentication server of said center station.